

REMARKS

This responds to the Office Action mailed on October 28, 2004.

Claims 19, 20, 53, 79, 82, 85, 98, 104-112, 120, and 125 are amended. Claims 19, 20, 53, 79-87, 98-102, and 104-125 remain pending in this application.

Claims 19, 20, 53, 79, 82, 85, 98, 104-112, 120, and 125 are amended for clarity. These claims are not amended in response to any rejection.

Election/restrictions

The present Office Action (October 28, 2004) indicates that claim 125 is withdrawn from further consideration as being drawn to a nonelected species (embodiment 3). Applicant respectfully disagrees. Applicant submits that claim 125 is drawn to the elected species (embodiment 1) because claim 125 recites the elements of embodiment 1.

A previous Office Action (January 2, 2002) states that embodiment 1 is drawn to "a capacitor comprising a first conductive capacitor plate, a dielectric comprising a metal oxide such as titanium dioxide, and a second conductive capacitor plate".

Claim 125 recites:

a first capacitor plate having at least one first material;
a second capacitor plate; and

a dielectric interposed between the first and second capacitor plates,
wherein the dielectric is an oxide of a conductive layer having a second material,
wherein the conductive layer includes a non-oxidized portion and an oxidized
portion, and wherein the oxidized portion of the conductive layer constitutes the
dielectric.

Since claim 125 recites recite "a first capacitor plate", "a second capacitor plate", and a "dielectric" as listed in embodiment 1, claim 125 reads on embodiment 1 (the elected species). Since claim 125 reads on the elected species, Applicant requests that claim 125 be considered in the present examination.

Drawings

Applicant submits that the drawings show every feature of the invention specified in the claims. The claims of the invention recite a dielectric that includes a non-oxidized portion and

an oxidized portion. Applicant submits that the dielectric including a non-oxidized portion and an oxidized portion as shown throughout the drawings. As an example, in FIG. 10B, feature 85 shows the non-oxidized portion and feature 90 shows the oxidized portion. Therefore, Applicant submits that the drawings show every feature of the invention specified in the claims.

Accordingly, Applicant requests that the objection to the drawings be reconsidered and withdrawn.

§112 Rejection of the Claims

Claims 19, 20, 53, 79, 81, 82, 84, 85, 87, and 107-112 were rejected under 35 USC § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Applicant respectfully traverses. Applicant submits that claims 19, 20, 53, 79, 81, 82, 84, 85, 87, and 107-112 contain subject matter described in the specification.

In rejecting the claims, page 3 of the Office Action states:

"The dielectric that includes a non-oxidized portion of a second material and an oxidized portion is not disclosed in the elected embodiment 1. Therefore, the recitation of the dielectric that includes a non-oxidized portion of a second material and an oxidized portion is not supported by the elected embodiment 1. Applicant is requested to point out exactly where in the application regarding the elected embodiment 1 that teaches the unoxidized portion of the metal layer 30 is a dielectric in the elected embodiment 1."

Before presenting reasons to show that claims 19, 20, 53, 79, 81, 82, 84, 85, 87, and 107-112 contain subject matter described in the specification, Applicant believes that the above statement unintentionally switches the positions of the non-oxidized portion and the oxidized portion. The claims of the present invention recite a dielectric having a non-oxidized portion and an oxidized portion, wherein the **oxidized** portion includes a second material. In contrast, the above statement of the Office Action states "**a non-oxidized** portion of a second material". Thus, Applicant assumes that above statement of the Office Action above is meant to state:

"The dielectric that includes [a non-oxidized] an oxidized portion of a second material and [an oxidized] a non-oxidized portion is not disclosed in the elected

embodiment 1. Therefore, the recitation of the dielectric that includes [a non-oxidized] an oxidized portion of a second material and [an oxidized] a non-oxidized portion is not supported by the elected embodiment 1. Applicant is requested to point out exactly where in the application regarding the elected embodiment 1 that teaches the unoxidized portion of the metal layer 30 is a dielectric in the elected embodiment 1."

The following discussions show that claims 19, 20, 53, 79, 81, 82, 84, 85, 87, and 107-112 read on the elected embodiment 1. The following discussions also show that claims 19, 20, 53, 79, 81, 82, 84, 85, 87, and 107-112 contain subject matter described in the specification in which the specification satisfies 35 USC §112, first paragraph.

Embodiment 1

As mentioned in the election/restrictions section above, the previous Office Action (January 2, 2002) lists that embodiment 1 is drawn to "a capacitor comprising a first conductive capacitor plate, a dielectric comprising a metal oxide such as titanium dioxide, and a second conductive capacitor plate".

The elected claims read on Embodiment 1

The elected claims 19, 20, 53, 79, 81, 82, 84, 85, 87, and 107-112 recite, among other things, "a first conductive capacitor plate" or "a first capacitor electrode", "a dielectric", and "a second conductive capacitor plate" or "a second capacitor electrode". As presented above, embodiment 1 is drawn to a capacitor comprising "a first conductive capacitor plate", "a dielectric" comprising a metal oxide such as titanium dioxide, and "a second conductive capacitor plate". Since claims 19, 20, 53, 79, 81, 82, 84, 85, 87, and 107-112 recite the elements listed in embodiment 1, claims 19, 20, 53, 79, 81, 82, 84, 85, 87, and 107-112 read on embodiment 1. Further, Applicant submits that additional things in claims 19, 20, 53, 79, 81, 82, 84, 85, 87, and 107-112 do not prevent these claims from reading on embodiment 1. Thus, Applicant submits that claims 19, 20, 53, 79, 81, 82, 84, 85, 87, and 107-112 read on the elected embodiment 1.

The claims contain subject matter described in the specification

The above discussion shows that claims 19, 20, 53, 79, 81, 82, 84, 85, 87, and 107-112 read on the elected embodiment 1. The following discussion shows that the dielectric including "a non-oxidized portion and an oxidized portion" recited in the claims is described in the specification.

Applicant submits that many places in the specification support the recitation of the dielectric that includes a non-oxidized portion and an oxidized portion. As an example, page 8, third paragraph of the specification states that "first and third metal layers 75 and 95 form first and second capacitor plates of the capacitors 105, and the first and second metal oxide layers 80 and 90 and second metal layer 85 form the dielectric of the capacitors 105". Metal oxide layer 90 is an oxidized portion of metal layer 85. Thus, metal layer 85 illustrates an example of a non-oxidized portion of the dielectric; and metal oxide layer 90 illustrates an example of an oxidized portion of the dielectric. Thus, the dielectric including "a non-oxidized portion and an oxidized portion" recited in the claims is supported by the specification.

The discussions above show that claims 19, 20, 53, 79, 81, 82, 84, 85, 87, and 107-112 read on the elected embodiment 1. The discussions above also show that claims 19, 20, 53, 79, 81, 82, 84, 85, 87, and 107-112 containing subject matter described in the specification in which the specification satisfies 35 USC §112, first paragraph. Accordingly, Applicant requests that the rejection under 35 USC §112, first paragraph, be reconsidered and withdrawn and that claims 19, 20, 53, 79, 81, 82, 84, 85, 87, and 107-112 be allowed.

AMENDMENT AND RESPONSE UNDER 37 CFR § 1.116 – EXPEDITED PROCEDURE

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Title: DEVICES HAVING IMPROVED CAPACITANCE

Page 13

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CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's representative (612) 373-6969 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 27 day of January, 2005.